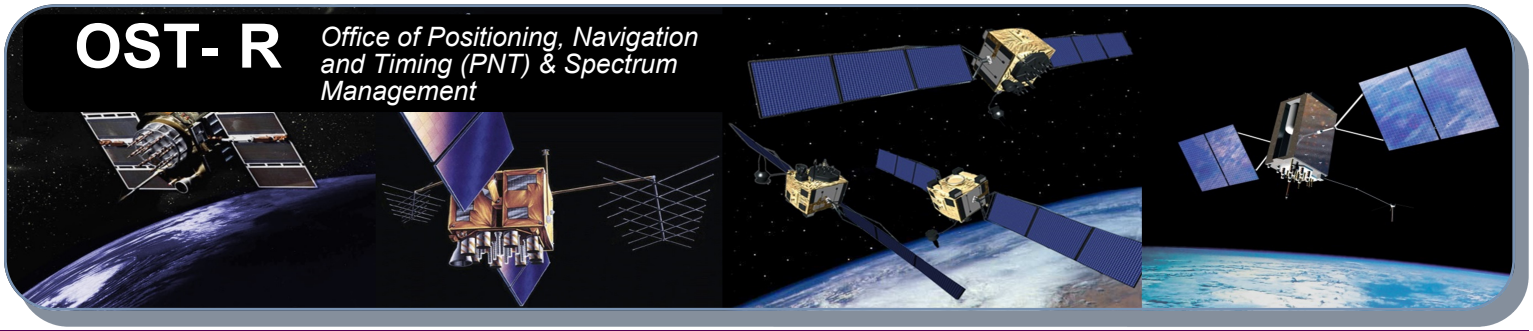
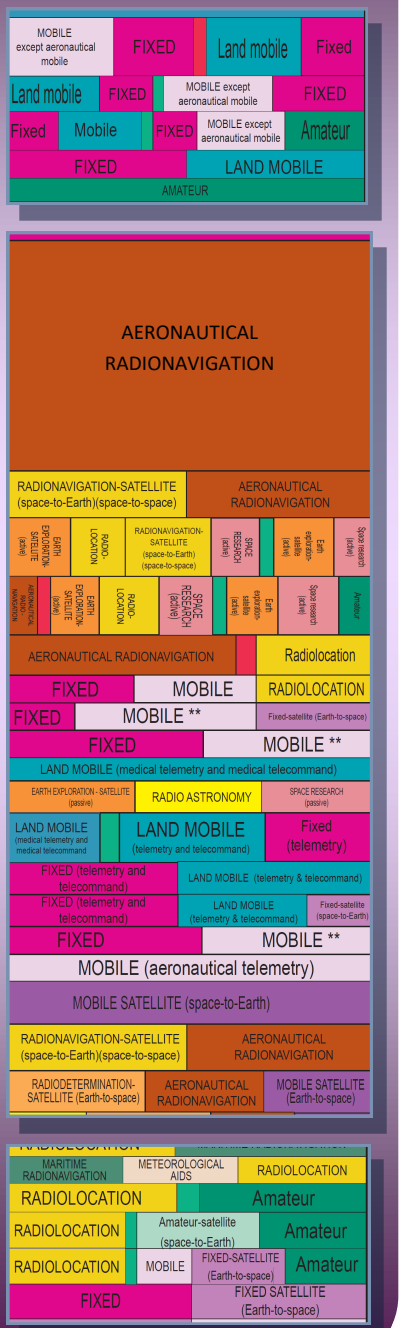
# OST- R

*Office of Positioning, Navigation and Timing (PNT) & Spectrum Management*



## Advancing PNT And Spectrum Policy and Research




## Spectrum Management Program Overview

Radio frequency spectrum is critical to the safe and efficient use of the national transportation system. All modes of transportation within the United States rely upon secure spectrum-based communications, navigation, and surveillance systems. Spectrum must be protected from harmful interference to ensure availability and reliability for the continued safe operation of these systems in the face of growing competition for spectrum resources both in the U.S. and internationally.

### Spectrum Policy, Planning, and Analysis

- Coordinates spectrum policy and planning among DOT modal administrations.
- Interacts with partner Federal Agencies, including the National Telecommunications and Information Administration (NTIA) and Federal Communications Commission (FCC) to support national spectrum policy.
- Day-to-day responsibilities for spectrum management are handled by OST-R for cross-modal transportation issues, as well as surface transportation and in coordination with the FAA for aviation and space transportation issues.
- Analyzes and investigates Radio Frequency Interference (RFI) issues affecting all transportation modes for coordinated resolution with regulatory agencies.

### Presidential Memorandum on Modernizing United States Spectrum Policy and Establishing a National Spectrum Strategy – November 2023

“Section 1. Policy. Radio frequency spectrum is among our Nation’s most important national resources. The United States has long advanced our global technological leadership by striking an appropriate balance between promoting private-sector innovation and furthering the missions of executive departments and agencies.”

Radio frequency spectrum is a limited resource, therefore, in support of the President’s memorandum to develop a sustainable spectrum strategy, DOT is working to ensure transportation’s use of radio frequency spectrum is efficient and effective, utilizing existing commercial systems whenever feasible.

DOT continues to evaluate opportunities to share spectrum, working with all spectrum stakeholders (both Federal spectrum managers and non-Federal) and to ensure that telecommunications technologies incorporate many of the unique aspects that transportation needs to increase safety, security, mobility, effectiveness and efficiency.

**For more information, please visit us at https://www.transportation.gov/pnt**

**U.S. Department of Transportation, Office of the Secretary**

## Preparing for the Future of Transportation

OST-R's Office of PNT and Spectrum Management works closely with the Intelligent Transportation Systems Joint Program Office (ITSJPO), Federal Highway administration (FHWA), the National Highway Traffic Safety Administration (NHTSA) and others within DOT to ensure access to spectrum designated for surface transportation for ongoing research; and supports stakeholders in their deployments of safety critical communications and Vehicle-to-Everything (V2X) applications.

As interest in interoperable transportation communications grows (in particular as surface to air communications such as air taxi or vehicle to drone messaging) the Office of PNT and Spectrum Management supports the Department in identifying new technologies

These include next generation wireless technologies, modeling and simulation, designing and implementing test plans, and supporting development of voluntary, industry standards that meet public sector needs and ensure secure and successful deployments.

OST-R's Office of PNT and Spectrum Management also worked closely with the Federal Railroad Administration to ensure spectrum was available to support the implementation of Congressionally mandated Positive Train Control (PTC) to improve safety and efficiency on the nations freight and commuter rail lines. PTC systems are communications designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position.

OST-R's Office of PNT and Spectrum Management also supports the Maritime Administration and United States merchant marine to ensure maritime frequencies are available for the Nation's domestic and international waterborne commerce.

## SPECTRUM Example Bands of Interest to DOT

**26.1 MHz -- 26.175 MHz**
MARITIME MOBILE
Communications to ships in coastal zones
SHARED FED/NON-FED

**216 MHz -- 222 MHz**
FIXED | MOBILE
Railroad Use,
Positive Train Control (PTC)
SHARED FED/NON-FED

**960 MHz -- 1164 MHz**
AERONAUTICAL RADIONAVIGATION (DME)
(ADS-B UAT) (ATCRBS, Mode S, ADS-B, TCAS & MLAT)
**978 MHz *1030 MHz *1090 MHz**
SHARED FED/NON-FED

**1164 MHz -- 1215 MHz**
Radio Navigation (DME)
Satellite Service (RNSS)
**(GPS L5 @ 1176.45 MHz)**
SHARED FED/NON-FED

**1215 MHz -- 1240 MHz**
Radio Navigation
Satellite Service (RNSS)
**(GPS L2 @ 1227.6 MHz)**
SHARED FED/NON-FED

**1559 MHz -- 1610 MHz**
Radio Navigation
Satellite Service (RNSS)
**(GPS L1 @ 1575.42 MHz)**
SHARED FED/NON-FED

**5.895 GHz -- 5.925 GHz**
5.9 GHz Supporting Transportation Safety
SHARED FED/NON-FED

**17.8 GHz -- 18.3 GHz**
Federal Maritime Use
(Data Link between SLSDC and Canada), Railroad fixed microwave links
SHARED FED/NON-FED

**Consult DOT's Spectrum Chart: US Radio Frequency Bands Supporting Surface & Aviation Transportation for Details.**